blind, placebo controlled, clinical trial to develop a model to assess the utility and costs associated with eszopiclone treatment of primary insomnia. Treatment of insomnia was evaluated using the Insomnia Severity Index, which categorizes insomnia as not clinically significant, subtheshold, moderate, and severe. Quality of life data were collected in the trial using the SF-36. From these responses, preference-based utility scores were derived using an algorithm published by Franks et al. (2004). Insomnia costs were based on published data, and included the additional health care costs of patients with insomnia versus patients with no insomnia, the additional absenteeism costs due to insomnia, and the "presenteeism" (lost productivity while at work) costs as measured by the Work Limitations Questionnaire. Eszopiclone cost was based on the average wholesale price. Changes in the average quality-adjusted life years (QALYs) and costs from baseline to 6 months for patients in both treatment groups were calculated and 95% credible intervals generated by a bootstrapping algorithm. All costs are presented in 2006 US dollars. **RESULTS:** The average 6-month changes in QALYs were 0.010514 and –0.003201 for eszopiclone and placebo groups, respectively, for a mean net gain of 0.013714 (95% CI: 0.0053525, 0.021885). The average 6-month costs per patient including indirect productivity were $490 and $421, respectively, indicating a net cost of $69 (–$436, $325). Incremental costs per QALY gained associated with eszopiclone were $5,003 (–$12,603, $41,376) per patient over the 6-month time period when absenteeism and presenteeism costs were included and $33,110 ($20,679, $83,846) when excluded. **CONCLUSION:** Based on this model, eszopiclone treatment of insomnia was cost effective considering lost productivity, and remained cost effective even when excluding productivity costs.

PND8

COST-EFFECTIVENESS ANALYSIS OF AMBULATORY CARE STRATEGY FOR PATIENTS WITH TRANSIENT ISCHEMIC ACCIDENT (TIA) VERSUS THE STANDARD PROTOCOL BASED ON HOSPITALISATION

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OBJECTIVES: The purpose of this study is to evaluate the cost-effectiveness of an ambulatory care strategy for patients with TIA by using a neurosonological study at emergency department versus the standard protocol based on inpatient care **METHODS:** This is a partially stochastic cost-effectiveness analysis where effectiveness data were collected by means of a follow-up cohort study. Period of study cover from 1st January of 2002 to 30th June 2005, when 338 patients with TIA were treated in the Neurology department of the University Hospital Virgen de las Nieves (Granada, Spain). Effectiveness variables were survival, disability degree, relapse, sequels and cardiac event after TIA. Cost analysis adopts the hospital perspective, including overheads and direct costs. Economic data were obtained from hospital's analytical accounting. The cost-effectiveness analysis was carried out considering the 5 effectiveness variables mentioned. A one-way sensitivity analysis was performed. **RESULTS:** Costs of ambulatory and hospitalization care were 428.08€ and 2,297.87€ respectively. Considering survival and relapse, hospitalization treatment is more effective than ambulatory, but regarding disability, sequels and cardiac events ambulatory outcomes were more favourable in ambulatory protocol. None of these differences was statistically significant. Cost-effectiveness analyses based on disability, sequels and cardiac events show strongly dominance of ambulatory protocol. Cost-effectiveness analyses on survival and relapse report an incremental cost-effectiveness ratio (ICER) of 93,489€ and 46,745€ respectively. Sensitivity analysis confirms the robustness of previous results. **CONCLUSION:** The effectiveness equivalence of both ambulatory and hospitalisation treatments and the much fewer costs of ambulatory care, support the recommendation of a spread of the ambulatory treatment instead of the hospital one.

PND9

LEVETIRACETAM ADJUNCTIVE THERAPY FOR THE TREATMENT OF REFRACTORY PRIMARY GENERALISED TONIC-CLONIC SEIZURES: A COST-EFFECTIVENESS ANALYSIS

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OBJECTIVES: Choosing an antiepileptic drug (AED) can be a complex decision for clinicians. This study aims to estimate the cost-effectiveness of levetiracetam adjunctive therapy compared to topiramate adjunctive therapy for the treatment of refractory primary generalised tonic-clonic seizures (PGTCS) in the Scottish health care setting. **METHODS:** A Markov model was developed to assess the clinical and economic outcomes of levetiracetam adjunctive therapy compared to topiramate adjunctive therapy in patients with refractory PGTCS. The model simulates the treatment pathway of a hypothetical cohort of 1000 patients over one year. Efficacy data were drawn from five randomized clinical trials. Data for each three-month cycle on risk of withdrawal, adverse events and mortality were obtained from the published literature. Resource use data and costs were obtained from published data and were based on the Scottish NHS perspective. Only direct costs relating to the management and treatment of refractory PGTCS and adverse events were considered. Health benefits were assessed in terms of seizure-free cycles and quality-adjusted life years (QALYs). Deterministic and probabilistic sensitivity analyses explored the robustness of the results. **RESULTS:** In the base case scenario, the model predicts approximately 3800 seizure-free cycles for topiramate versus 4000 for levetiracetam. QALYs gained are slightly higher for levetiracetam than topiramate (990 vs. 980). Total costs relating to topiramate and levetiracetam are similar (≤1,555,000 and ≤1,500,000 respectively). Consequently, levetiracetam adjunctive therapy dominates topiramate adjunctive therapy. Varying AED costs did not have a major impact on the results of the cost-effectiveness analysis. Using a threshold of ≤30,000 per QALY, levetiracetam is cost-effective compared to topiramate in 85% of refractory PGTCS patients. **CONCLUSION:** Levetiracetam adjunctive therapy appears to be cost-effective for the treatment of refractory patients with PGTCS. Levetiracetam adjunctive therapy dominates topiramate adjunctive therapy, its acquisition cost being offset by reduced seizure management costs and a better tolerability profile.

PND10

COST EFFECTIVENESS ANALYSES OF RUFINAMIDE VS TOPIRAMATE AND LAMOTRIGINE AS ADJUNCTIVE THERAPIES IN THE TREATMENT OF LENNOX-GASTAUT SYNDROME (LGS) IN THE UNITED KINGDOM

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OBJECTIVES: Lennox-Gastaut syndrome (LGS) is a severe form of childhood epilepsy. The cost-effectiveness of rufinamide versus

lamotrigine and topiramate as adjunctive therapy in the treatment of LGS from a UK NHS perspective was assessed. **METHODS:** A semi-Markov model with individual patient simulation was developed to estimate the costs and clinical benefits of the newer antiepileptic drugs over a 3 year time horizon. The outcome measure is the percentage of successfully treated patients, with success defined as ≤50% reduction in frequency of drop attacks. In the absence of head-to-head clinical trials, indirect comparisons were made among the alternative therapies using placebo as the common comparator. Health states applied in the model were >75% reduction in seizure frequency, 50%–75% reduction, <50% reduction and death. Transition probabilities were derived from patient level trial data on rufinamide and published clinical trials for the comparators. Estimates for resource use were derived from interviews with 5 practicing paediatric epileptologists, to which published UK unit costs were applied. Results of 10,000 Monte Carlo simulations were bootstrapped to conduct probabilistic sensitivity analysis. **RESULTS:** Over 3 years 11.3% of rufinamide patients were treated successfully compared to 7.2% and 5.2% with topiramate and lamotrigine respectively. Total discounted costs of treatments were respectively £50,985, £50,730 and £50,975 with a highly right-skewed distribution. Mean incremental cost-effectiveness ratios (ICER) for rufinamide were £6,215 (90%CI: dominant–£40,000) and £172 (dominant –£19,100) per 1% increase in success rate versus topiramate and lamotrigine respectively. At £13,000 per 1% increase in successfully treated patients over 3 years rufinamide is has the highest probability of being cost-effective. Shorter time horizons and higher hospitalisation rates improved the cost-effectiveness of rufinamide. **CONCLUSION:** Rufinamide is a cost-effective therapy compared to topiramate and lamotrigine as adjunctive therapy in achieving greater than 50% reduction in frequency of drop attacks in LGS.

PND11

COMPARATIVE ANALYSIS OF MULTIPLE SCLEROSIS COST-EFFECTIVENESS MODELS: FOCUS ON THE UNITED STATES MANAGED CARE PERSPECTIVE

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OBJECTIVES: To assess the scientific literature for studies evaluating comparative economic value of the five disease modifying drugs (DMDs) approved in the United States (U.S.) for the management of relapsing forms of multiple sclerosis (MS). **METHODS:** A comprehensive search of the MEDLINE database, as well as the International Society for Pharmacoeconomics and Outcomes Research (ISPOR) and Academy of Managed Care Pharmacy (AMCP) meeting proceedings was conducted to identify cost effectiveness (CE) analysis studies published or presented from 2004 through May 2007. Studies were critically reviewed with regard to evaluated comparators, primary endpoints, measures of relapse reduction, perspective, timeframe, and cost of therapy. **RESULTS:** The two identified CE analyses both utilized cost per relapse avoided as the primary endpoint, but the results varied significantly in terms of CE ratios and relative DMD rankings. The primary determinant of these variations was the methodology used to calculate relapse reduction from the data reported in randomized placebo-controlled trials. While the same clinical trials were employed by both models, the number of avoided relapses was based on absolute reduction in the case of Goldberg et al and on relative reduction in the case of Chiao et al, and the models used different assumptions with respect to timeframe, treatment adherence, monitoring costs, contractual discounts, and member co-payments. Due to the limitations inherent to the relative event reduction methodology, the model developed by Chiao et al was highly sensitive to the variation in the average relapse rate prior to treatment. **CONCLUSION:** The choice of methodology used to calculate therapeutic impact on relapse reduction can significantly influence the outcome of CE analyses. Considering significant heterogeneity in baseline disease severity among clinical trials in MS, use of absolute reduction in relapse rate may be more appropriate as it more accurately reflects the net clinical benefit.

PND12

MODELING THE CLINICAL AND ECONOMIC CONSEQUENCES OF TREATING RELAPSING FORM OF MULTIPLE SCLEROSIS WITH SUBCUTANEOUS VERSUS INTRAMUSCULAR INTERFERON-BETA-1A

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OBJECTIVES: The EVidence of Interferon Dose-response European North American Comparative Efficacy (EVIDENCE) trial concluded administering subcutaneous (SC) IFNb1a 44 micrograms three times per week was more effective in improving the proportion with relapsing form of multiple sclerosis (RFMS) remaining relapse-free than intramuscular (IM) 30 micrograms weekly after 24 and 48 weeks. This analysis utilized discrete event simulation (DES) to model the potential longer-term clinical and economic implications of this trial. **METHODS:** This DES predicts the course of RFMS, reads in actual patient profiles from the trial and creates two hypothetical cohorts—one receives SC IFNb1a and the other IM. Patients may suffer relapses with short- and long-term impact on costs and disability, develop new T2 lesions, discontinue treatment, progress to secondary progressive MS (SPMS) or die. Risk equations were derived from specific analyses of trial data for relapse and supplemented with published studies for SPMS and death. Direct medical costs to US payers obtained from literature and databases were reported in 2006 USD and discounted at 3%. Extensive sensitivity analyses were conducted. **RESULTS:** Based on 100 replications of 1000 patient pairs over four years, SC administration was predicted to allow more patients to avoid a relapse (216 vs. 147). Total mean costs per patient were $79,154 with SC vs. $73,820 with IM, a net increase of $5335. SC IFNb1a was estimated to give a mean of 0.50 relapses prevented, and 23 relapse-free days gained per patient, yielding incremental cost effectiveness ratios of $10,616 per relapse prevented and $229 per relapse-free day gained. Sensitivity analyses revealed that the result was most sensitive to the cost of treatment, criteria for response, and treatment duration before assessing response. **CONCLUSION:** SC IFNb1a is predicted to improve health outcomes over four years for a cost that would seem an acceptable trade off.

PND13

COST-EFFECTIVENESS ANALYSIS OF THE LIDOCAINE 5% MEDICATED PLASTER RELATIVE TO GABAPENTIN AND PREGABALIN FOR POST-HERPETIC NEURALGIA IN GERMANY

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OBJECTIVES: To assess the cost-effectiveness of using a lidocaine 5% medicated plaster in place of gabapentin (1800 mg/